

**What is Claimed is:**

- 1    1. A method for packaging a fiber optics device comprising the steps of:
  - 2        (a) preparing a fiber optics sub-assembly with a specific function that has at least a  
3            fiber extending from both ends of said fiber optics sub-assembly;
  - 4        (b) inserting a first end of said sub-assembly into a housing cap and then permeating  
5            a sealant into a narrow gap between said housing cap and said sub-assembly to  
6            achieve their tight bonding and air-tightness;
  - 7        (c) reserving a first section of said fiber outside a second end of said sub-assembly;
  - 8        (d) stripping a protective coating of a second section of said fiber after said first  
9            section of said fiber;
  - 10       (e) inserting said second end of said sub-assembly into a hole of a sleeve whose  
11           aperture only allows said fiber to pass through so that said second section of said  
12           fiber is surrounded entirely by said sleeve, and then permeating a sealant into a  
13           narrow gap between said second section of said fiber and said sleeve hole to  
14           achieve their tight bonding and air-tightness; and
  - 15       (f) surrounding said housing cap and said sleeve with a housing tube and then  
16           permeating a sealant into narrow gaps between said housing tube and said  
17           housing cap, and between said housing tube and said sleeve to achieve their tight  
18           bonding and air-tightness.
- 1    2. The method for packaging a fiber optics device according to claim 1, wherein said  
2       second section of said fiber has a length shorter than that of said sleeve so that said  
3       second section of said fiber is surrounded entirely by said sleeve.

- 1 3. The method for packaging a fiber optics device according to claim 1, wherein joins  
2 between said housing tube and said housing cap, and between said housing tube and  
3 said sleeve are achieved by a tin soldering process.
- 1 4. The method for packaging a fiber optics device according to claim 1, wherein joins  
2 between said housing tube and said housing cap, and between said housing tube and  
3 said sleeve are achieved by a laser welding process.
- 1 5. The method for packaging a fiber optics device according to claim 1, wherein said  
2 sleeve and said second section of said fiber are joined by a tin soldering process.
- 1 6. The method for packaging a fiber optics device according to claim 1, wherein said  
2 sleeve and said second section of said fiber are joined by a glass soldering process.
- 1 7. The method for packaging a fiber optics device according to claim 1, wherein said  
2 sealant is epoxy resin.
- 1 8. The method for packaging a fiber optics device according to claim 1, wherein  
2 differences in terms of thermal expansion coefficients between said housing tube and  
3 the fiber optics sub-assembly are less than  $30 \times 10^{-6} / ^\circ\text{C}$ .
- 1 9. The method for packaging a fiber optics device according to claim 1, wherein a  
2 section of said fiber optics sub-assembly joining said housing cap is made of a  
3 material that is completely moisture-proof.
- 1 10. The method for packaging a fiber optics device according to claim 1, wherein said  
2 housing cap and said sleeve are made of a material that is completely moisture-proof.
- 1 11. A packaging structure for a fiber optics device comprising:

2 a fiber optics sub-assembly having at least a fiber extending from both ends of said  
3 fiber optics sub-assembly;  
4 a housing cap surrounding a first end of said fiber optics sub-assembly;  
5 a first section of said fiber extending out of a second end of said fiber optics sub-  
6 assembly being reserved, and a second section of said fiber behind said first section  
7 of said fiber being stripped of protecting coating;  
8 a sleeve surrounding said fiber extending out of said second end of said fiber optics  
9 sub-assembly with a center hole whose aperture allows only said fiber to pass  
10 through, and covering said second section of said fiber entirely; and  
11 a housing tube surrounding said housing cap and said sleeve.

1 12. A packaging structure for a fiber optics device comprising:

2 a fiber optics sub-assembly having at least a fiber extending from both ends of said  
3 fiber optics sub-assembly;  
4 a first section of said fiber extending out of said both ends of said sub-assembly  
5 being reserved, and a second section of said fiber behind said first section of said  
6 fiber being stripped of protecting coating;  
7 two sleeves surrounding said fiber extending out of said both ends of said sub-  
8 assembly respectively, each with a center hole whose aperture allows only said fiber  
9 to pass through, and covering said second section of said fiber entirely; and  
10 a housing tube surrounding said sleeves.

1 13. A packaging structure for a fiber optics device comprising:

2 a fiber optics sub-assembly having a first end sealed and packaged, and having at  
3 least a fiber extending from a second end of said fiber optics sub-assembly;  
4 a first section of said fiber extending out of said second end of said fiber optics sub-  
5 assembly being reserved, and a second section of said fiber behind said first section  
6 of said fiber being stripped of protecting coating;  
7 a sleeve surrounding said fiber extending out of said second end of said fiber optics  
8 sub-assembly with a center hole whose aperture allows only said fiber to pass  
9 through, and covering said second section of said fiber entirely; and  
10 a housing tube surrounding said first end of said fiber optics sub-assembly and said  
11 sleeve.